Appln. No. 09/882,472
Response dated January 30, 2007
Reply to Office Action of October 30, 2006
Docket No. 6169-157

IBM Docket No. BOC9-2000-0016

REMARKS/ARGUMENTS

These remarks are made in response to the Office Action of October 30, 2006 (hereinafter Office Action). As this response is timely filed within the three-month statutory period, no fee is believed due. Nonetheless, the Examiner is expressly authorized to charge any deficiencies or credit any overpayment to Deposit Account No. 50-0951.

In the Office Action, Claims 1-11 and 13-25 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,604,077 to Dragosh, *et al.* (hereinafter "Dragosh") in view of U.S. Patent No. 6,408,272 to White, *et al.* (hereinafter "White").

Applicants Invention

It may be helpful to reiterate certain aspects of Applicants' invention prior to addressing the cited references. One embodiment of the invention, as exemplified by Claim 1, is a method for processing speech audio in a network-connected client device. The method can include selecting a speech grammar for use in a speech recognition system in the network-connected client device and characterizing the selected speech grammar. More particularly, the selected speech grammar can be characterized according to the size of the grammar and/or feedback requirements for the selected speech grammar, for example. Although the characterization can be performed dynamically, the characterization of the selected speech grammar can also be embedded within the selected speech grammar.

Subsequently, according to the method, it can be determined based on the characterization whether to process the speech grammar locally in the network-connected client device, or remotely in a speech server connected to the network, where a grammar having a small size and/or requiring real-time feedback will be processed locally on a network connected device. Additionally, an embedded characterization in a selected

9

speech grammar can also include a preference for processing the selected speech grammar locally or remotely.

The Claims Define Over The Prior Art

Each of the pending claims, as already noted, was rejected as being unpatentable over the combination of Dragosh and White. As stated in the Office Action, Dragosh is directed to "a client server architecture to process grammar functions at a site that has the processing capability;" that is, the "passing of grammar functions to a server." White, it is stated in the Office Action, discloses " further switching between the client/server." It is acknowledged at page 5 of the Office Action, however, that the references do not disclose how the characterization information interacts with the decision making process and that amending the claims to specify such interaction would overcome the references.

As of this Amendment, independent Claims 1, 10, 14, 23, and 24 have been amended to specify the interaction between the characterization information and the decision process, as suggested in the Office Action. Additionally, dependent Claims 5-7, 13, and 18-19 have been amended to maintain consistency among the claims. Claim 11 has been cancelled.

As amended, the independent claims include the further limitation that the characterization of the selected speech grammar is based on a complexity defined by at least the size of the selected speech grammar and/or whether real-time feedback is required during the speech recognition process. Furthermore, once the speech grammar has been characterized based on this criteria, a decision is made based on this characterization of the grammar and the processing power of the local system, where grammars requiring real-time feedback and/or smaller size grammars are processed locally on network connected devices having low processing power. Other grammars would then be processed remotely, including those of a large size or those in which the

associated latency in feedback, defined by the network speed and a server processing power, is acceptable. Such an amendment is fully supported in the Specification by, for example, the explicit description of determining to process locally smaller grammars having real-time feedback requirements on low processing power local systems and determining to process more complex grammars remotely. (See, e.g., Specification, page 10, ln. 9-13, and page 12, ln. 28, through page 13, ln. 3).

Applicants respectfully submit that, apart from the explicit description provided in the Specification, size and feedback requirements are generally known to those of ordinary skill in the art to be aspects of the complexity of a speech grammar, as in the present invention, and accordingly such aspects inherently define a speech grammar's complexity. As known in the prior art, both local and remote devices are limited in the types of speech grammar processing which can be satisfactorily performed. (See, e.g., Specification, page 2, ln. 15, through page 3, ln. 9). Such limitations are typically based on the complexity of the selected speech grammar, such as the requirements of the speech-enabled application. For example, a voice command processor may comprise a small grammar of selected words to enable actions to occur, but in a speech-enabled address book and calendar a larger set of commands and options m ay be required, requiring a much larger grammar to properly operate. Similarly, a voice command application may require immediate feedback in order to efficiently verify the execution of command, while a speech-enabled address book and calendar can have some latency associated with the feedback. Applicants submit that these descriptions clearly disclose to one of ordinary skill in the art that a complexity of a speech grammar will be based upon factors such as the size of the grammar required for the speech-enabled application and the type of feedback required for the application.

Applicants also respectfully submit that, as known in the prior art and discussed above, it is desired that only less complex grammars be processed locally because of the

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processing limitations of the network client. (See, e.g., Specification, page 2, ln. 15, through page 3, ln. 9). As such, in order for a system to dynamically determine whether to a selected speech grammar locally or remotely, where the motivation in the present invention is to have the grammar processed in the most efficient manner, such a system would have to be able to ascertain the processing capability of the local client, or is at least be provided with such information.

Accordingly, Dragosh and White, separately and in combination, fail to teach or suggest every feature recited in independent Claims 1, 10, 14, 23, and 24, as amended. Applicants thus respectfully submit that amended Claims 1, 10, 14, 23, and 24 now define over the prior art. Applicants further respectfully submit that, whereas each of the remaining dependent claims depends from one of the amended claims while reciting additional features, dependent claims 2-9, 13, 15-22, and 25 likewise define over the prior art.

CONCLUSION

Applicants believe that this application is now in full condition for allowance, which action is respectfully requested. Applicants request that the Examiner call the undersigned if clarification is needed on any matter within this Amendment, or if the Examiner believes a telephone interview would expedite the prosecution of the subject application to completion.

Respectfully submitted,

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12